

+ 	U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7505P) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460 NOTICE OF PESTICIDE: <input checked="" type="checkbox"/> Registration <input type="checkbox"/> Reregistration (under FIFRA, as amended)	EPA Reg. Number: 83070-11	Date of Issuance: January 15, 2015
		Term of Issuance: Unconditional	
		Name of Pesticide Product: Minerva Duo	
Name and Address of Registrant (include ZIP Code): Advan, LLC Lizbeth Rea, Directory of Regulatory Affairs 2525 Meridian Parkway, Suite 350 Durham, NC 27713			
Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.			
<p>On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.</p> <p>Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.</p> <p>This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:</p> <ol style="list-style-type: none"> 1. Submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data. 2. Make the following label changes before you release the product for shipment: <ul style="list-style-type: none"> • Revise the EPA Registration Number to read, "EPA Reg. No. 83070-11." 			
Signature of Approving Official:  Tony Kish, Fungicide Branch, Registration Division (7505P)		Date: January 15, 2015	

3. Submit one copy of the revised final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF, dated 01/07/2015
- Alternate CSF #1, dated 01/07/2015

If you have any questions, please contact Tony Kish by phone at 703 308-9443, or via email at kish.tony@epa.gov; or you may contact Craig Reeves by phone at 703 347-0486, or via email at reeves.craig@epa.gov.

Sincerely,



Tony Kish, Product Manager 22
Fungicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Attachment: Stamped Label



RESTRICTED USE PESTICIDE

Because of high acute toxicity of triphenyltin hydroxide and its potential for affecting fetal development, this product may be applied only by certified applicators or persons under their supervision.

For retail sale to and use by Certified Applicators or person under their direct supervision and only for those uses covered by the Certified Applicator's certification.

Minerva Duo™

ACTIVE INGREDIENT:

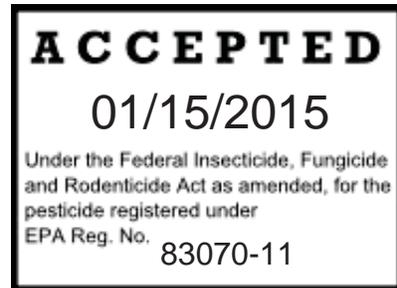
Tetraconazole {1-[2-(2,4-dichlorophenyl)-3-(1,1,2,2-tetrafluoroethoxy) propyl]-1H-1,2,4-triazole}....	7.66%
Triphenyltin hydroxide	21.08%

OTHER INGREDIENTS: 71.26%

TOTAL 100.00%

Contains 0.73 lb. of tetraconazole and 2 lb. of triphenyltin hydroxide per gallon.

**KEEP OUT OF REACH OF CHILDREN
DANGER-PELIGRO**



Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand this label, find someone to explain it to you in detail).

EPA Reg. No. 83070-XX

EPA Est. No. _____

NET CONTENTS: _____

Advan, LLC
2525 Meridian Parkway, Suite 350
Durham, NC 27713

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Have affected person sip a glass of water if able to swallow. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything to an unconscious person. • Call a poison control center or doctor immediately for treatment advice.
IF INHALED:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
Emergency phone numbers	(800) 222-1222 Poison Control Center (800) 424-9300 CHEMTREC (transportation and spills)

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER-PELIGRO**

Causes irreversible eye damage. May be fatal if swallowed. Harmful if inhaled. Do not get in eyes or on clothing. Wear goggles or face shield when handling. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. The United States Environmental Protection Agency has determined that triphenyltin hydroxide, the active ingredient of this product, affects fetal development causing birth defects in laboratory animals. Exposure to triphenyltin hydroxide during pregnancy should be avoided.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, and viton ≥14 mils. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart.

Handlers exposed to the concentrate or diluted product must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant footwear plus socks
- Chemical-resistant gloves, such as butyl rubber, nitrile rubber, or neoprene rubber
- Protective eyewear
- Chemical-resistant apron for mixing and loading or equipment maintenance
- Chemical-resistant headgear for overhead exposure
- Dust/mist filtering respirator (MSHA/NIOSH approval TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

Handlers, mixers, loader, applicators, flaggers and others using engineering controls must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves, such as butyl rubber, nitrile rubber, or neoprene rubber, during mixing and loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering controls statements:

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Mixers and loaders supporting aerial chemigation applications must use a closed mixing and loading system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4)] for providing both dermal and inhalation protection. The system must include a mechanism for removing the pesticide and rinsate into mixing tanks and/or application equipment. At any disconnect point, the system must be equipped with a dry disconnect or dry couple shut-off device that is warranted by the manufacturer to minimize drippage to not more than 2 ml per disconnect point.

Mixers and loaders supporting ground applications must use a mechanical transfer system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4)] for providing dermal protection. The system must be capable of removing the pesticide from the shipping container and transferring it into mixing tanks and/or application equipment. At any disconnect point, the system must be equipped with a dry disconnect or dry couple shut-off device that is warranted by the manufacturer to minimize drippage to not more than 2 ml per disconnect point.

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

Ground equipment applicators and flaggers must use an enclosed cab that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)].

All mixers, loaders, applicators, and flaggers must wear the personal protective equipment specified above for the task they are performing and all (except aerial applicators) must be provided and must have immediately available for use in an emergency, such as a spill or equipment failure, the PPE specified above for handlers not using engineering controls.

Applicators and flaggers must be in enclosed cabs.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product may be toxic to fish, aquatic invertebrates and wildlife. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift or

runoff from treated areas may be hazardous to aquatic organisms adjacent to treatment areas. Exercise care when making applications of this product, and do not apply when atmospheric conditions favor drift or runoff. Do not apply with aircraft within 300 feet or with ground boom equipment within 100 feet of any natural body of water such as rivers, streams, ponds, lakes and reservoirs. Do not apply with aircraft when wind speed is greater than 10 mph. Apply this pesticide only as specified on this label. Do not contaminate water when disposing of equipment washwaters or rinsate.

In order to mitigate concern for reproductive effects to endangered bird and mammal species which may occur incidentally in sugarbeet growing areas, you are required to ascertain through the state Department of Agriculture, or Cooperative Extension Service, whether the treatment area may contain habitat of Federally listed bird and mammal species; if so, treatment must be avoided in these areas.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instruction and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Protective eyewear
- Shoes plus socks
- Chemical-resistant headgear for overhead exposure

GENERAL USE INFORMATION:

Apply Minerva Duo in a water carrier by spraying onto crop surfaces that are intended to be protected from disease. Both ground and aircraft methods of application are recommended.

This product should be added to the spray tank while filling with water. Keep the agitator running when filling spray tank and during spray operations. When tank mixing this product with other pesticides, observe the more restrictive label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Combination in the spray tank with other pesticides, fertilizers or surfactants is not recommended unless prior use has shown the combination to be physically compatible, effective and noninjurious under your conditions of use.

DISEASE RESISTANCE MANAGEMENT

This product contains a sterol demethylation inhibitor (sterol DMI) fungicide (tetraconazole) and an organotin fungicide (triphenyltin hydroxide, TPTH). It should be applied in alternate applications with non-DMI fungicides as a resistance management strategy. Do not mix or alternate this product with other DMI fungicides.

AERIAL SPRAY DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator and grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information** (below).

Aerial Drift Reduction Advisory Information:

This section is advisory in nature and does not supersede the mandatory label requirements.

INFORMATION ON DROPLET SIZE: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable conditions (see **Wind, Temperature and Humidity**, and **Temperature Inversions**).

CONTROLLING DROPLET SIZE:

1. **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
2. **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
3. **Number of nozzles** -Use the minimum number of nozzles that provide uniform coverage.
4. **Nozzle orientation** - Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
5. **Nozzle type** -Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential

BOOM LENGTH: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

APPLICATION HEIGHT: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT: When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should

increase, with increasing drift potential (higher wind, smaller crops, etc.)

WIND: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

TEMPERATURE INVERSIONS: Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form at the sunsets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source of an aircraft smoke generator. Smoke that layers and moves lateral in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS: This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

CHEMIGATION: Do not apply this product through any type of irrigation system.

AGRICULTURAL CROPS:

Crop	Diseases Controlled	Minerva Duo Rate per Acre	Pre-harvest Interval	Application Directions
Sugarbeets	Cercospora leafspot (<i>Cercospora beticola</i>) Powdery Mildew (<i>Erysiphe betae</i>) Ramularia (<i>Ramularia beticola</i>)	16 fluid ounces	21 days (14 days-MN, ND, MI)	Apply Minerva Duo when conditions are favorable for disease. To obtain adequate coverage of sugarbeets, total spray volume usually will range from 20 to 150 gallons per acre for dilute sprays and 5 to 10 gallons per acre for concentrate ground sprays and aircraft applications. Do not make more than one (1) application of this product per growing season. Do not graze or feed beet tops to livestock. Crops other than sugarbeet must not be grown within 120 days following the last application of Minerva Duo. Small grains can be planted 45 days following last application of this product. Applications may be supplemented by use of other triphenyltin hydroxide based products provided the total seasonal use rate of

	triphenyltin hydroxide from all products does not exceed 0.5 lb/A. Total seasonal application of triphenyltin hydroxide based products in MN, ND, and MI cannot exceed 0.75 lb/A.
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Crop	Diseases Controlled	Minerva Duo Rate per Acre	Pre-harvest Interval	Application Directions
Pecan	<p>Scab (<i>Cladosporium caryigenum</i>)</p> <p>Downy spot (<i>Mycosphaerella caryigena</i>)</p> <p>Leaf blotch (<i>Mycosphaerella spp</i>)</p> <p>Vein spot and/or Liver spot (<i>Gnomonia spp</i>)</p> <p>Powdery mildew (<i>Microsphaera penicillata</i>)</p> <p>Brown Spot (<i>Cercospora fusca</i>)</p>	16 fluid ounces	30 days	<p>Apply Minerva Duo in adequate water to provide complete coverage. Spray volumes of at least 100 gallons per acre should be used for ground applications and at least 10 gallons per acre for aerial applications. Apply of this product at intervals of 14 to 21 days, beginning when conditions are favorable for scab or other foliage and nut hull diseases. Applications of this product may be alternated with a non-triazole fungicide which is registered for use on pecans.</p>
		<p>Do not make more than five (5) applications of Minerva Duo per growing season. [equal to 0.46 lb tetraconazole ai/A and 1.25 lb. TPTH ai/A per season]</p> <p>Apply a maximum seasonal use rate of 80 fl. oz. of this product per acre per season.</p> <p>Applications may be supplemented by the use of other triphenyltin hydroxide based products provided the total season use rate for triphenyltin hydroxide from all products used does not exceed 1.5 lb ai/A for pecans grown west of Interstate 35 and a total of 2.25 lbs ai/A for pecans grown east of Interstate 35.</p>		

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in original container in a dry, temperature-controlled, secure place.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility.

CONTAINER HANDLING:

Containers < 5 Gallons: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Minibulk Containers: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follow: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Bulk Containers: Refillable container. Refill this container with pesticide only . Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. When the container is empty, replace the cap and seal all openings that have been opened during use; and return to the point of purchase, or to a designated location named at the time of purchase of this product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged or leaking, call Chem-Trec. If the container is damaged and leaking or material has been spilled, follow these procedures:

- Cover spill with absorbent material.
- Sweep into disposal container.
- Wash area with detergent and water and follow with clean water rinse.
- Do not allow to contaminate water supplies.
- Dispose of according to instructions.

If not returned to the point of purchase or to a designated location, clean empty container as instructed above and offer for recycling. Disposal of this container must be in compliance with state and local regulations.

WARRANTY AND LIMITATION OF DAMAGES

CONDITIONS OF SALE: To the extent consistent with applicable law, Advan, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Advan, LLC. **ADVAN, LLC DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.** To the extent consistent with applicable law, **ADVAN, LLC SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, AND ADVAN, LLC'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE. BUYER AND USER ACKNOWLEDGE AND ASSUME ALL RISKS AND LIABILITY RESULTING FROM HANDLING, STORAGE AND USE OF THIS PRODUCT. ADVAN, LLC DOES NOT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTY, GUARANTEE OR REPRESENTATION CONCERNING THIS PRODUCT.**